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**FAX TRANSMISSION**DATE: December 13, 2006PTO IDENTIFIER: Application Number 09/766,736-Conf. #1298  
Patent Number  
Inventor: Edward J. Bortolini et al.MESSAGE TO: US Patent and Trademark Office  
FAX NUMBER: (571) 273-6500FROM: PATTON BOGGS LLP  
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Attorney Dkt. #: 013436.0235PTUS (Bortolini 6-7-1)PAGES (Including Cover Sheet): 13CONTENTS: Certificate of Transmission (1 page)  
Request For Refund (Improper Charge Of Deposit Account) (2 pages)  
Exhibit A - Copy of Deposit Account Statement for December 2005 (1 page)  
Exhibit B - Copy of Amendment In Response To Non-Final Office Action filed 03/31/2006  
(8 pages)

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Application No. (if known): 09/788,738

Attorney Docket No.: 019436.0235PTUS  
(Bortolini 6-7-1)

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1. Request For Refund (Improper Charge Of Deposit Account) (2 pages)
2. Exhibit A - Copy of Deposit Account Statement for December 2005 (1 page)
3. Exhibit B - Copy of Amendment In Response To Non-Final Office Action filed 03/31/2006 (8 pages)

243567

Docket No.: 013436.0235PTUS  
(Bortolini 6-7-1)  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of  
Edward J. Bortolini et al.

Application No.: 09/766,736

Confirmation No.: 1298

Filed: January 22, 2001

Art Unit: 2623

For: DISTRIBUTED BROADBAND CABLE  
MODEM TERMINATION SYSTEM

Examiner: Raman, U.

Mail Stop 16  
Director Of The US Patent  
And Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REQUEST FOR REFUND  
(IMPROPER CHARGE OF DEPOSIT ACCOUNT)**

**I. REFUND REQUEST**

This is a request for a refund, with respect to charges to Deposit Account 50-1848, shown on the statement for September 200 for the above-identified application. A copy of the Deposit Account Statement, in which the error referred to occurs, accompanies this request and is marked Exhibit A.

**II. FEES CHARGED FOR WHICH REFUND REQUESTED**

**FEE EXPLANATION**

**AMOUNT OF REFUND REQUESTED**

Independent Claims in Excess of 3

\$200.00

**III. EXPLANATION OF WHY CONTESTED CHARGE IS IN ERROR**

An Amendment In Response To Non-Final Office Action was filed in the above-identified application on March 31, 2006 via facsimile with the US Patent Office, a copy of which is attached as Exhibit B. The Amendments To The Claims beginning on page 3 of the response included fourteen (14) new claims, two (2) of which were independent claims. Since the original application filed January 2, 2001 contained only two (2) independent claims (which were paid for at the time of filing the application), the application as amended contains a total of only four (4) independent claims, not five (5) as alleged by the charge to


(Request for Refund (Improper Charge of Deposit Account)-page 1 of 2)

the Deposit Account. Therefore, it is requested that a refund of \$200.00 be made to the Deposit Account for the additional independent claim mistakenly charged.

#### IV. MANNER OF REFUND

Please make refund by crediting Deposit Account No. 50-1848.

Date: 11/30/06  
Reg. No.: 28,300  
Tel. No.: 303-894-6113  
Fax No.: 303-894-9239

  
James M. Graziano  
Customer No. 24283

(Request for Refund (Improper Charge of Deposit Account)-page 2 of 2)



## **Deposit Account Statement**

**Requested Statement Month:**

September 2006

**Deposit Account Number:**

501848

**Name:**

PATTON BOGGS LLP

**Attention:**

**SUSAN STATZ**

**Address:**

1660 LINCOLN ST

City:

DENVER

**State:**

CO

**Zip:**

80264

**Country:**

UNITED STATES

DATE	SEQ	POSTING REF	TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
09/13	194	11519120		013454.0106N1US	2201	\$100.00	\$8,392.90
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09/20	6	10719859		BOLLAND 11-28 (13436.285)	1201	-\$400.00	\$8,592.90
09/20	7	10719859		BOLLAND 11-28 (13436.285)	1201	\$200.00	\$8,392.90
				13436.283C1US			
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		\$8,492.90	\$500.00		\$400.00		\$8,392.90

Ex Charged  
\$200

Ind. Claims in  
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Was this a  
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Docket No.: 013436.0235PTUS  
(Bortolini 6-7-1)  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Edward J. Bortolini et al

Application No.: 09/766736

Confirmation No.: 1298

Filed: January 22, 2001

Art Unit: 2617

For: DISTRIBUTED BROADBAND CABLE  
MODEM TERMINATION SYSTEM

Examiner: U. Raman

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

In response to the Office Action dated December 19, 2005, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.

Application No. 09/766736  
Amendment dated March 31, 2006  
Reply to Office Action of December 19, 2005

Docket No.: 013436.0235PTUS  
Bortolini 6-7-1

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A broadband cable modem termination system for managing data transmissions through a broadband network that interconnects a plurality of end user locations that are connected to a first side of said network and a head-end via a cable modem that is connected on a second side of said network, said broadband network comprising a hierarchical network having at least two levels, said broadband cable modem termination system comprising:

downstream broadband cable modem component means, located at a first level of said hierarchical network, which is proximate to said second side of said network, comprising:

means for exclusively converting data that is received in digital base-band IP format from a source of program material located at said head-end, to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations,

means for transmitting said data received from a source of program material, that is located at said head-end, in said radio frequency based format exclusively in a downstream direction through said network to selected ones of said plurality of end user locations; [and]

upstream broadband cable modem component means, located at a second level of said hierarchical network which is proximate to said second ~~first~~ side of said network and independent of said downstream broadband cable modem component means, comprising:

means for exclusively converting data that is received in a radio frequency based format from selected ones of said plurality of end user locations, to data in digital base-band IP format for transmission to said head-end,

means for transmitting control said data received from at least one of said plurality of end user locations in digital base-band IP format exclusively in an upstream direction through said network to said head-end[.]; and

wherein said ~~first level and said second level [is]~~ are located downstream of said first level different levels in said hierarchical network and said means for exclusively converting data from digital base-band IP format to data in a radio frequency based format is at a different location from said means for exclusively converting data from a radio frequency based format to data in digital base-band IP format.

Claims 2 - 5 (Canceled)

6. (Currently amended) A method of operating a broadband cable modem termination system for managing data transmissions through a broadband network that

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interconnects a plurality of end user locations that are connected to a first side of said network and a head-end via a cable modem that is connected on a second side of said network, said broadband network comprising a hierarchical network having at least two levels, said method of operating a broadband cable modem termination system comprising:

exclusively converting data that is received in digital base-band IP format from a source of program material located at said head-end, to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations;

transmitting said data in said radio frequency based format from a downstream broadband cable modem component apparatus, located at a first level of said hierarchical network, which is proximate to said second side of said network, from a source of program material that is located at said head-end, exclusively in a downstream direction through said network to selected ones of said plurality of end user locations; [[and]]

exclusively converting data that is received in a radio frequency based format from selected ones of said plurality of end user locations, to data in digital base-band IP format for transmission to said head-end;

transmitting control said data from an upstream broadband cable modem component apparatus, located at a second level of said hierarchical network which is proximate to said second side of said network and independent of said downstream broadband cable modem component apparatus, and received from at least one of said plurality of end user locations in digital base-band IP format exclusively in an upstream direction through said network to said head-end, wherein said second level is located downstream of said first level in said hierarchical network; and

wherein said primary hubs and said secondary hubs are located at different levels in said broadband network and said step of exclusively converting data from digital base-band IP format to data in a radio frequency based format occurs at a different location from said step of exclusively converting data from a radio frequency based format to data in digital base-band IP format and said step of exclusively converting data from digital base-band IP format to data in a radio frequency based format occurs at a different location from said step of exclusively converting data from a radio frequency based format to data in digital base-band IP format.

Claims 7 - 10 (Canceled)

11. (New) A broadband cable modem termination system for managing data transmissions through a broadband network that interconnects a head-end that is connected to a

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Amendment dated March 31, 2006  
Reply to Office Action of December 19, 2005

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plurality of primary hubs of said broadband network, and a plurality of end user locations that are connected to a plurality of secondary hubs of said broadband network, said broadband network interconnecting said primary and said secondary hubs, said broadband cable modem termination system comprising:

primary hub broadband cable modem component means, connected to at least one of said primary hubs, comprising:

means for exclusively converting data that is received in digital base-band IP format from a source of program material located at said head-end to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations,

means for transmitting said data in said radio frequency based format exclusively through said broadband network to selected ones of said plurality of end user locations;

secondary hub broadband cable modem component means, connected to at least one of said secondary hubs and independent of said primary hub broadband cable modem component means, comprising:

means for exclusively converting data that is received in a radio frequency based format from selected ones of said plurality of end user locations to data in digital base-band IP format for transmission to said head-end;

means for transmitting said data in digital base-band IP format exclusively through said network to said head-end; and

wherein said primary hubs and said secondary hubs are located at different levels in said broadband network, and said means for exclusively converting data from digital base-band IP format to data in a radio frequency based format is at a different location from said means for exclusively converting data from a radio frequency based format to data in digital base-band IP format.

12. (New) The broadband cable modem termination system of claim 11 further comprising:

wherein a plurality of end user locations are served by a passive fiber node which serves to interconnect said plurality of end user locations to a secondary hub, said secondary hub broadband cable modem component means is located in said passive fiber node.

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Amendment dated March 31, 2006  
Reply to Office Action of December 19, 2005

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13. (New) The broadband cable modem termination system of claim 11 wherein said means for exclusively converting data that is received in a radio frequency based format comprises:  
means for converting said radio frequency based format data from a DOCSIS IP format to digital base-band IP format data.

14. (New) The broadband cable modem termination system of claim 11 wherein said means for exclusively converting data that is received in digital base-band IP format comprises:  
means for converting said digital base-band IP format data to DOCSIS IP data.

15. (New) A method for managing data transmissions through a broadband network that interconnects a head-end that is connected to a plurality of primary hubs of said broadband network, and a plurality of end user locations that are connected to a plurality of secondary hubs of said broadband network, said broadband network interconnecting said primary and said secondary hubs, said broadband cable modem termination system comprising:

operating a primary hub broadband cable modem component that is connected to at least one of said primary hubs, comprising:

exclusively converting data that is received in digital base-band IP format from a source of program material located at said head-end to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations;

transmitting said data in said radio frequency based format exclusively through said broadband network to selected ones of said plurality of end user locations;

operating a secondary hub broadband cable modem component that is connected to at least one of said secondary hubs and independent of said primary hub broadband cable modem component, comprising:

exclusively converting data that is received in a radio frequency based format from selected ones of said plurality of end user locations to data in digital base-band IP format for transmission to said head-end;

transmitting said data in digital base-band IP format exclusively through said network to said head-end; and

wherein said primary hubs and said secondary hubs are located at different levels in said broadband network, and said step of exclusively converting data from digital base-band IP format to data in a radio frequency based format occurs at a different location from said step of exclusively converting data from a radio frequency based format to data in digital base-band IP format.

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Application No. 09/766736  
Amendment dated March 31, 2006  
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16. (New) The method for managing data transmissions through a broadband network of claim 15 further comprising:

wherein a plurality of end user locations are served by a passive fiber node which serves to interconnect said plurality of end user locations to a secondary hub, said step of exclusively converting data that is received in a radio frequency based format is executed in said passive fiber node.

17. (New) The method for managing data transmissions through a broadband network of claim 15 wherein said step of exclusively converting data that is received in a radio frequency based format comprises:

converting said radio frequency based format data from a DOCSIS IP format to digital base-band IP format data.

18. (New) The method for managing data transmissions through a broadband network of claim 15 wherein said step of exclusively converting data that is received in digital base-band IP format comprises:

converting said digital base-band IP format data to DOCSIS IP data.

19. (New) The broadband cable modem termination system of claim 1 further comprising:

wherein a plurality of end user locations are served by a passive fiber node which serves to interconnect said plurality of end user locations to a secondary hub, said upstream broadband cable modem component means is located in said passive fiber node.

20. (New) The broadband cable modem termination system of claim 1 wherein said means for exclusively converting data that is received in a radio frequency based format comprises:

means for converting said radio frequency based format data from a DOCSIS IP format to digital base-band IP format data.

21. (New) The broadband cable modem termination system of claim 1 wherein said means for exclusively converting data that is received in digital base-band IP format comprises:

means for converting said digital base-band IP format data to DOCSIS IP data.

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Amendment dated March 31, 2006  
Reply to Office Action of December 19, 2005

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22. (New) The method of operating a broadband cable modem termination system claim 6 further comprising:

wherein a plurality of end user locations are served by a passive fiber node which serves to interconnect said plurality of end user locations to a secondary hub, said step of exclusively converting data that is received in a radio frequency based format is executed in said passive fiber node.

23. (New) The method of operating a broadband cable modem termination system claim 6 wherein said step of exclusively converting data that is received in a radio frequency based format comprises:

converting said radio frequency based format data from a DOCSIS IP format to digital base-band IP format data.

24. (New) The method of operating a broadband cable modem termination system claim 6 wherein said step of exclusively converting data that is received in digital base-band IP format comprises:

converting said digital base-band IP format data to DOCSIS IP data.

Application No. 09/766736  
Amendment dated March 31, 2006  
Reply to Office Action of December 19, 2005

Docket No. 013436.0235PTUS  
Reamendment 6-7-1

**REMARKS**

Claims 1 - 10 are pending in this application.

In an Office Action mailed 19 December 2005, the Examiner rejected claims 1 - 10 under 35 USC §102(b) as being anticipated by Applicants' prior art system. Applicants have cancelled claims 2 - 5 and 7 - 10, amended claims 1 and 6, and added new claims 11 - 24 in response thereto.

In a telephone conference dated 29 March 2006, the Examiner discussed the present claims and the pending rejection. Applicants have amended the independent claims 1 and 6 to recite the structural elements in Applicants' disclosure that distinguish Applicants' invention over the cited art. In particular, the data conversion in two different locations (levels) of the broadband network and the specific data conversions that occur exclusively at these two locations. Applicants have also added independent claims 11 and 15 to recite an alternate hub-based view of the invention. Finally, dependent claims 13, 14, and 16 - 24 have been added to recite specific implementation details that are novel. Applicants believe that the amendments to independent claims 1 and 6 render these claims allowable over the cited art. In addition, independent claims 11 and 15 are believed allowable, since these claims are analogous to independent claims 1 and 6, respectively. Finally, Applicants believe that dependent claims 13, 14, and 16 - 24 are allowable, since these claims depend on allowable base claims.

In view of the above amendments and remarks, Applicants believe the pending application is in condition for allowance. Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1848, under Order No. 013436.0235PTUS from which the undersigned is authorized to draw.

Respectfully submitted,  
PATTON BOGGS LLP

Dated: 31 MARCH 2006

Customer No. 24283

By: James M. Graziano  
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(303) 830-1776  
(303) 894-9239 (Fax)  
Attorney for Applicants

Page 0 of 2

**MULTIPLE DEPENDENT CLAIM  
FEE CALCULATION SHEET**

SERIAL NO.

FILED DATE

APPLICANT(S)

**CLAIMS**

	AS FILED		AFTER 1ST AMENDMENT		AFTER 2ND AMENDMENT	
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